Complete Summary

GUIDELINE TITLE

Medical management of adults with osteoarthritis.

BIBLIOGRAPHIC SOURCE(S)

Michigan Quality Improvement Consortium. Medical management of adults with osteoarthritis. Southfield (MI): Michigan Quality Improvement Consortium; 2007 Aug. 1 p.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Michigan Quality Improvement Consortium. Medical management of adults with osteoarthritis. Southfield (MI): Michigan Quality Improvement Consortium; 2005 Aug. 1 p.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Osteoarthritis

GUIDELINE CATEGORY

Evaluation
Management
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Rheumatology

INTENDED USERS

Advanced Practice Nurses
Health Plans
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To achieve significant, measurable improvements in the management of osteoarthritis through the development and implementation of common evidence-based clinical practice guidelines
- To design concise guidelines that are focused on key management components of osteoarthritis to improve outcomes

TARGET POPULATION

Adults with clinical suspicion or confirmed diagnosis of osteoarthritis

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation

Detailed history, physical examination, and assessment of gastrointestinal (GI) risk

Management/Treatment

Non-Pharmacologic Modalities

1. Education and counseling regarding weight reduction and joint protection
2. Range-of-motion, aerobic, and muscle strengthening exercises
3. Physical therapy and occupational therapy for patients with functional limitations
4. Self-management
5. Assistive devices for ambulation and activities of daily living and appropriate footwear, orthotics for select patients

Pharmacologic Therapy

1. Acetaminophen or topical capsaicin
2. Other pharmacologic agents such as nonacetylated salicylate, tramadol, opioids, intra-articular glucocorticoids or hyaluronate, lidoderm, or methylsalicylate
3. Non-steroidal anti-inflammatory drugs (NSAIDs) such as naproxen or a combination of NSAID and proton pump inhibitor (PPI) if on aspirin or at NSAID GI risk (misoprostol may be substituted for PPI)

4. Cyclo-oxygenase-2 (COX-2) selective inhibitors for patients who do not tolerate NSAIDs

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Michigan Quality Improvement Consortium (MQIC) project leader conducts a search of current literature in support of the guideline topic. Computer database searches are used to identify published studies, existing protocols and/or national guidelines on the selected topic developed by organizations such as the American Diabetes Association, American Heart Association, American Academy of Pediatrics, etc. If available, clinical practice guidelines from participating MQIC health plans and Michigan health systems are also used to develop a framework for the new guideline.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence for the Most Significant Recommendations

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational studies
D. Opinion of expert panel

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Using information obtained from literature searches and available health plan guidelines on the designated topic, the Michigan Quality Improvement Consortium (MQIC) project leader prepares a draft guideline to be reviewed by the medical directors' committee at one of their scheduled meetings. Priority is given to recommendations with [A] and [B] levels of evidence (see "Rating Scheme for the Strength of the Evidence" field).

The initial draft guideline is reviewed, evaluated, and revised by the committee resulting in draft two of the guideline. Additionally, the Michigan Academy of Family Physicians participates in guideline development at the onset of the process and throughout the guideline development procedure. The MQIC guideline feedback form and draft two of the guideline are distributed to the medical directors, as well as the MQIC measurement and implementation group members, for review and comments. Feedback from members is collected by the MQIC project leader and prepared for review by the medical directors' committee at their next scheduled meeting. The review, evaluation, and revision process with several iterations of the guideline may be repeated over several meetings before consensus is reached on a final draft guideline.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

When consensus is reached on the final draft guideline, the medical directors approve the guideline for external distribution to practitioners with review and comments requested via the Michigan Quality Improvement Consortium (MQIC) health plans (project leader distributes final draft to medical directors' committee, measurement and implementation groups to solicit feedback).

The MQIC project leader also forwards the approved guideline draft to appropriate state medical specialty societies for their input. After all feedback is received from external reviews, it is presented for discussion at the next scheduled committee

meeting. Based on feedback, subsequent guideline review, evaluation, and revision may be required prior to final guideline approval.

The MQIC Medical Directors approved this updated guideline in August 2007.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The level of evidence grades (A-D) are provided for the most significant recommendations and are defined at the end of the "Major Recommendations" field.

Initial Evaluation

- Detailed history (aspirin use, pain control with over-the-counter medications, activity tolerance and limitations)
- Physical examination
- Assess gastrointestinal (GI) risk:
    - History of GI bleeding
    - History of peptic ulcer disease and/or non-steroidal induced GI symptoms
    - Concomitant use of corticosteroids and/or warfarin **[A]**
    - High dose, chronic, or multiple non-steroidal anti-inflammatory drugs (NSAIDs) including aspirin
    - Age >60 years

Nonpharmacologic Modalities

Treatment plan should include:

- Education and counseling regarding weight reduction and joint protection
- Range-of-motion **[B]**, aerobic, and muscle strengthening exercises
    - For patients with functional limitations, consider physical and occupational therapy
- Self-management resources (e.g., American Arthritis Foundation self help course and book

For select patients:

- Assistive devices for ambulation and activities of daily living
- Appropriate footwear, orthotics (e.g., wedged insoles)

Pharmacologic Therapy

Therapies Other than NSAIDs

- Initial drug of choice: acetaminophen 4 g/day, modify dose for patients at risk for toxicity (note patients with hepatic toxicity risk factors, especially those on aspirin). Reassess and taper as tolerated.

- Topical capsaicin

NSAID Analgesics

No Cardiovascular Risk

- **No or low NSAID GI risk**
  - NSAID
  - Add a proton pump inhibitor (PPI)[1] if on aspirin, plus risk warrants GI protection
- **NSAID GI risk**
  - NSAID plus PPI[1]
  - If NSAID not tolerated, cyclo-oxygenase-2 (COX-2) selective inhibitor
  - For those with prior GI bleed avoid all NSAIDs/COX-2, if must use, then COX-2 plus PPI[1] **[D]**

Cardiovascular Risk

- **No or low NSAID GI risk**
  - Naproxen[2,3]
  - Add PPI[1] if GI risk of aspirin/NSAID combination warrants GI protection
- **NSAID GI risk**
  - Naproxen[2,3] plus PPI[1] if cardiovascular risk > GI risk
  - COX-2 plus PPI[1] if GI risk > cardiovascular risk

[1]Misoprostol at full dose (200 micrograms four times a day) may be substituted for PPI.

[2]Naproxen probably has lowest cardiovascular risk of NSAID/COX-2 class.

[3]If aspirin is used daily, COX-2 offers no advantage over NSAID.

Other Pharmacologic Agents

Nonacetylated salicylate, tramadol, opioids, intra-articular glucocorticoids or hyaluronate, lidoderm or methylsalicylate

Definitions:

Levels of Evidence for the Most Significant Recommendations

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational studies
D. Opinion of expert panel

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence is provided for the most significant recommendations (See "Major Recommendations" field).

The guideline is based on several sources including, The ICSI Diagnosis and Treatment of Adult Degenerative Joint Disease (DJD)/Osteoarthritis (OA) of the Knee, Institute for Clinical Systems Improvement, 2007 (www.icsi.org) and Scheiman JM. Summing the Risk of NSAID Therapy. Lancet 2007; 369:1580-1.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Through a collaborative approach to developing and implementing common clinical practice guidelines and performance measures for osteoarthritis, Michigan health plans will achieve consistent delivery of evidence-based services and better health outcomes. This approach also will augment the practice environment for physicians by reducing the administrative burdens imposed by compliance with diverse health plan guidelines and associated requirements.

POTENTIAL HARMS

- For patients with prior gastrointestinal (GI) bleed, avoid all non-steroidal anti-inflammatory drugs (NSAIDs) and cyclo-oxygenase-2 (COX-2) selective inhibitors. If must use, then COX-2 plus proton pump inhibitor (PPI) should be used.
- Caution should be exercised in patients with hepatic toxicity risk factors taking acetaminophen

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline lists core management steps. Individual patient considerations and advances in medical science may supersede or modify these recommendations.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Approved Michigan Quality Improvement Consortium (MQIC) guidelines are disseminated through email, U.S. mail, and websites.

The MQIC project leader prepares approved guidelines for distribution. Portable Document Format (PDF) versions of the guidelines are used for distribution.

The MQIC project leader distributes approved guidelines to MQIC membership via email.

The MQIC project leader submits request to website vendor to post approved guidelines to MQIC website (www.mqic.org).

The MQIC project leader completes a statewide mailing of the comprehensive set of approved guidelines and educational tools annually. The guidelines and tools are distributed in February of each year to physicians in the following medical specialties:

- Family Practice
- General Practice
- Internal Medicine
- Other Specialists for which the guideline is applicable (e.g. endocrinologists, allergists, pediatricians, cardiologists, etc.)

The statewide mailing list is derived from the Blue Cross Blue Shield of Michigan (BCBSM) provider database. Approximately 95% of the state's M.D.'s and 96% of the state's D.O.'s are included in the database.

The MQIC project leader submits request to the National Guideline Clearinghouse (NGC) to post approved guidelines to NGC website (www.guideline.gov).

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

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DATE RELEASED

2003 Aug (revised 2007 Aug)

GUIDELINE DEVELOPER(S)

Michigan Quality Improvement Consortium - Professional Association

SOURCE(S) OF FUNDING

Michigan Quality Improvement Consortium

GUIDELINE COMMITTEE

Michigan Quality Improvement Consortium Medical Director's Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Physician representatives from participating Michigan Quality Improvement Consortium health plans, Michigan State Medical Society, Michigan Osteopathic Association, Michigan Association of Health Plans, Michigan Department of Community Health and Michigan Peer Review Organization

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Standard disclosure is requested from all individuals participating in the Michigan Quality Improvement Consortium (MQIC) guideline development process, including those parties who are solicited for guideline feedback (e.g. health plans, medical specialty societies). Additionally, members of the MQIC Medical Directors' Committee are asked to disclose all commercial relationships.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Michigan Quality Improvement Consortium. Medical management of adults with osteoarthritis. Southfield (MI): Michigan Quality Improvement Consortium; 2005 Aug. 1 p.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Michigan Quality Improvement Consortium Web site.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on April 14, 2004. The information was verified by the guideline developer on July 27, 2004. This summary was updated by ECRI on January 12, 2005 following the release of a public health advisory from the U.S. Food and Drug Administration regarding the use of some non-steroidal anti-inflammatory drug products. This summary was updated on April 15, 2005 following the withdrawal of Bextra (valdecoxib) from the market and the release of heightened warnings for Celebrex (celecoxib) and other nonselective nonsteroidal anti-inflammatory drugs (NSAIDs). This summary was updated by ECRI on June 16, 2005, following the U.S. Food and Drug Administration advisory on COX-2 selective and non-selective non-steroidal anti-inflammatory drugs (NSAIDs). This NGC summary was updated by ECRI on November 28, 2005. The updated information was verified by the guideline developer on December 19, 2005. This NGC summary was updated most recently by ECRI Institute on March 4, 2008. The updated information was verified by the guideline developer on March 12, 2008.

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